costs, either through secondary transfers or through license revocation and a second round of lotteries or comparative hearings. The latter situation costs the Commission time and money and significantly delays service to the public. While secondary transfers are less costly for the Commission,[30] they delay service to the public and simply result in huge, unjustified profits for the seller and no compensation for the public, which must suffer through the delay in service. Furthermore, the resource belongs to the public and the public should receive the value being paid.

Spectrum auctions, however, benefit the public in three ways. First, the limited frequencies would immediately go to the licensees who have the greatest incentives to develop PCS for public use most efficiently. Second, funds representing the value of the spectrum to the licensee would enter the public weal rather than become windfall profits to a lucky lottery winner who may have entered the process with no intention at all of

---

[30] Nevertheless, subsequent transfer of control applications also result in the unnecessary use of Commission resources.

public service.[31] Third, the administrative costs of spectrum allocation would be lessened. If the Commission persists in its belief that it must wait for Congressional action prior to implementing spectrum auctions, these three benefits are significant enough to justify the effort to obtain such authority.

The auctions should be conducted using the method that maximizes the expected proceeds. This is consistent with the rationale behind auctioning the spectrum and would enhance the probability of awarding the license to the party that values it most highly. Economists studying the relative yield of different methods of auctioning have found the key insight into formulating a theory of optimal auctions is the "revelation principle," under which the bidders are asked to announce their valuations directly and openly.[32] The oral auction allows

---

[31] Anti-trafficking restrictions are not adequate deterrents because it is too easy for lottery winners to structure "management agreements" to last through whatever anti-trafficking period the Commission adopts. Further, even stringent financial qualification requirements can generally be met because third parties will profess a willingness to provide financing at a later date.

[32] Bulow and Roberts, "The Simple Economics of Optimal Auctions," 97 Journal of Political Economy 1060, 1063 (1989), referring to Myerson, "Optimal Auction Design," 6 Math. Operations Res., 58-73 (February 1981).

each party to continually evaluate its market entry cost and compare it with its predetermined demand estimate. By making all other bids public, it reduces the possibility of a bidder relying on incomplete or erroneous market information.

In contrast, sealed-bid auctions suffer from two inherent problems. First, in a situation where all bidders and potential market entrants have roughly similar profit potential, each knows that it will win only if its bid is slightly higher than the maximum value the other bidders would give the license. The actual value of the license is the amount bid by the second highest bidder; the surplus amount is described as the "winner's curse."[33] Because this situation is well-known to bidders, they will take significant steps to minimize the surplus and deliberately underbid, reducing the auction's yield. As a cure for winner's curse, game theorists recommend the sealed-bid, second-price auction, in which the high bidder wins, but pays only the amount bid by the

---

[33] Kagel and Levin, "The Winner's Curse and Public Information in Common Value Auctions," 76 American Economic Review, 894-920 (Dec. 1986); Lind and Plott, "The Winner's Curse: Experiments with Buyers and with Sellers," 81 American Economic Review, (Mar. 1991). 362.

second highest bidder. While this method is more likely to induce participants to bid their true value, it is intuitively strange and could present problems with general public acceptance. The outcome of a second-price auction is a riskier random variable than other auctions because the bidder doesn't know what price it will pay when it makes a bid. Hence these auctions discourage risk aversive participants and would tend to attract speculators.[34]

Second, the sealed-bid auction does nothing to minimize the effects of asymmetric information. Where only one bidder has experience in both the geographic market represented by the license and in some related communications field, it would have an informational advantage over others. Empirical studies of this situation in other government-conducted sealed-bid auctions show that these bidders will exploit their advantage by shading their bids substantially below their expectation of the value of the auctioned property, reducing the auction yield and the net social value.[35]

---

[34] See Matthews, "Comparing Auctions for Risk Averse Buyers: A Buyer's Point of View," 55 Econometrica 633-646 (May, 1987).

[35] See Hendricks and Porter, "An Empirical Study of an Auction with Asymmetric Information," 78 The Ameri-
(Footnote continued)

In general, therefore, revenue expectations for oral spectrum auctions will be greater than or equal to revenue expectations from sealed bid auctions. The seller's preference for oral auctions increases when the seller is in a monopolistic position, as the Commission is, as the sole source of PCS licenses. If entry to the bidding can be reduced by applying minimum bids that are not so high as to reduce the probability of profit or other restrictions that deter frivolous participants, the expected yields would be further enhanced.[36]

There is precedent for the use of oral auctions in awarding rights to valuable and limited public resources. The Forest Service uses this method to sell trees, portions of trees, or forest products from National Forest Service lands.[37] This procedure was chosen to insure fair and open competition for the resources along with the economic stability of affected communities.[38]

(Footnote 35 continued from previous page)
can Economic Review, 865-883 (Dec. 1988) (examining federal auctions for offshore oil and gas drainage leases).

[36] Harstad, "Alternative Common-Value Auction Procedures: Revenue Comparisons with Free Entry," 98 Journal of Political Economy, 421 (1990).

[37] Pursuant to 16 U.S.C. § 472(a).

[38] Id.

The PCS industry will similarly be based on limited public resources and will affect the economies of communities across the nation.

The Secretary of Agriculture sets qualifications for entry into the oral bidding, including sealed "qualifying bids." Only those whose qualifying bids are equal to or in excess of the appraised value of the subject materials may participate in oral bidding.[39] Similarly, the Commission should limit entry into oral bidding to only those applicants who have timely filed applications demonstrating their legal and technical qualifications.[40] Immediately following the auction, the winning bidder should be required to demonstrate its financial qualifications through internal resources or lender commitments within a limited time period (e.g., 30 days).

V. MANDATORY INTERCONNECTION POLICIES ARE CRITICAL TO THE DEVELOPMENT OF PCS POTENTIAL.

The full potential of personal communications services may not be realized or even effectively estimat-

---

[39] Id. and 36 C.F.R. § 223.88(a).

[40] If the Commission needs to build a permanent record of the auction, the proceedings could be recorded on video tape.

ed for years. PCS may some day exist independent of local wired networks and cellular systems. At least in its introductory state, however, if PCS is to fill in the gaps of existing communications technology it must be fully connected to the rest of that technology. Significant achievements have been made in recent years in advanced cordless phones, cellular, and paging services, but the unifying aspect of each has been the ability to interconnect through the local landline network. Because of this integration, each element becomes an extension of the other, until, to the consumer, the composite has become a seamless, universal communications network.

The PCS revolution will more likely be a gradual evolution of flexibility and functionality in the existing international communications system. As discussed above, the public will benefit significantly through increased competition and product differentiation. Existing communications providers, however, may see PCS as a potent competitor in areas where competition has been minimal. Rather than engage in unnecessary disputes and delays, the Commission should require interconnection between PCS and current communications systems

on at least the same terms it provided for cellular carriers.[41]

Because a microcell-based PCS system lends itself to efficient use in areas of population density, it is unlikely to replace cellular in some areas. Similarly, PCS can reach its full potential only if its consumers are able to use cellular systems in these areas. Therefore the Commission should specify interoperability standards between PCS and cellular technologies.

At the same time the Commission is mandating interconnection standards, it should set the conceptual regulatory stage upon which disputes would be settled. Because PCS will bring end users into the communications network from which they will be connected to other end users, they function much the way wireline carriers do up to the point of their switching mechanisms. Consequently the Commission should make it clear that PCS providers should be treated in all respects not as customers of the local wireline exchange carriers, but as co-carriers, entitled to equal regulatory status in any disputes. The Commission has already adopted this stance for cellular

---

[41] See, e.g., Need to Promote Competition and Efficient Use of Spectrum for Radio Common Carrier Services, 2 F.C.C. Rcd. 2910 (1987).

providers,[42] and consistent treatment for PCS providers would provide regulatory stability.

VI. THE COMMISSION SHOULD REGULATE PCS AS PRIVATE RADIO.

The Commission does not have complete discretion in designating a medium as a common carrier; it must defer to the common law definition which has been incorporated into the Communications Act. A particular system is a common carrier by virtue of its functions, rather than because it is declared to be so.[43] To be a common carrier one must hold oneself out indiscriminately to the clientele one is suited to serve.[44] In a competitive marketplace, PCS does not look like a common carrier, does not act like a common carrier, and therefore should not be regulated as a common carrier.

PCS technology lends itself to serving mobile personnel within a concentrated area, as for instance, doctors in a hospital. The hospital would contract with a PCS provider to furnish a system for its premises, allowing convenient two-way voice or data communications

---

[42] Cellular Communications Systems, 86 F.C.C. 2d 469,496 (1981).

[43] NARUC v. FCC, 525 F.2D 640, 644 (D.C. Cir. 1976).

[44] Id, at 641.

between staff members on site and others connecting via cellular or wireline telephones. Distribution economies would dictate that the larger and more specialized a user, the more likely price and other terms would need to be negotiable. For instance, a PCS system serving a hospital will have very different goals than one serving a shopping mall or mobile vendors and security personnel within a sports stadium. Factors such as one or two-way use, tolerance for busy terminals and duration of messages will all enter the fee calculation. Unlike the telephone system, rates cannot be structured purely on a time and distance scale. In a competitive marketplace, the free negotiability of services would lead to lower prices and would require little, if any, price regulation. Similarly, as discussed above, competition in the PCS marketplace would result in horizontal product differentiation, with different providers specializing in specific market segments and products designed for limited uses.

This product differentiation, both on the horizontal and vertical axis, denotes a healthy, competitive market and offers significant consumer benefits. What it does not present, however, is a situation where service

providers hold themselves out indiscriminately to the public.

When the choice becomes as obvious as one between competition and regulation, the Commission is in the ideal position to choose a regulatory model that simultaneously supports the development of a competitive industry and decreases the net national administrative burden.

In the NPRM, the Commission offers private land mobile radio as an alternative regulatory model. Because the Commission has previously determined that the test for private radio designation is that a licensee not resell interconnected telephone service for a profit,[45] private radio regulation fits well with a service that is a co-carrier with landline facilities rather than a reseller of phone services. The PCS provider should be treated as one who connects its customers into a seamless universal communications network through which they may exchange information with others who might be connected by PCS, cellular, landline, or other methods. Interconnection is not the same as reselling even if PCS suppliers were to share the costs of interconnection with landline common carriers, as is the case with SMR.

---

[45] NPRM, at 5712.

The Communications Act provides four factors that the Commission must consider in managing private radio issues.[46] Because each of those factors applies to PCS, it is consistent with the Congressional image of acceptable uses for private land mobile services. The adaptability of PCS to personal access within highly concentrated environments, such as hospitals, and its potential usefulness in times of crisis,[47] demonstrate how it will promote the safety of life and property. PCS will be built from the ground up using advanced, spectrum-efficient technology and, if enough competitors are allowed into the marketplace, it will result in products and services specifically designed to meet marketplace demands. If the Commission allows complete interconnectivity among all services in the personal information market, it will increase interservice sharing opportunities.

---

[46] 47 U.S.C. § 332(a): "...whether such actions will--
(1) promote the safety of life and property;
(2) improve the efficiency of spectrum use and reduce the regulatory burden upon spectrum users, based upon sound engineering principles, user requirements, and market-place demands;
(3) encourage competition and provide services to the largest feasible number of users; or
(4) increase interservice sharing opportunities between private land mobile services and other services."

[47] NPRM, at 5688.

Because PCS is most appropriately regulated as private radio and not as a common carrier, federal law would not allow regulation by state agencies.[48] This, in itself, will hasten the introduction of PCS. The cellular service is currently faced with regulation that varies significantly by state. Fewer than 5% of the cellular MSA/RSAs extend across state lines. If the Commission increases the size of the geographic license area for PCS to the Rand McNally major trading areas and permits state regulation of the new service, 85% of the PCS systems would be subject to multistate jurisdiction. Licensees in eight systems would be responsible to five state authorities,[49] and three could be regulated by six states.[50] In addition to coordination difficulties, the increase in administrative burdens on the part of the licensees and states could be overwhelming and in itself delay implementation of the service. The establishment

---

[48] 47 U.S.C. § 332(c)(3).

[49] Boston, Cincinnati, Dallas, Des Moines, El Paso, New York, Salt Lake City, and Spokane.

[50] The Denver MTA includes areas of Colorado, Kansas, Utah, Wyoming, South Dakota, and Nebraska. Memphis includes parts of Tennessee, Mississippi, Alabama, Louisiana, Arkansas, and Missouri. The Minneapolis MTA encompasses parts of Minnesota, Wisconsin, Michigan, North Dakota, South Dakota, and Iowa.

of larger license areas for PCS demonstrates that the service is envisioned as a national, interstate communications network. State regulation would be not only unwieldly, but also inappropriate.

State price regulation would increase in complexity and frustrate the goal of seamless regional systems. Methods such as rate of return or price caps that were designed to work with monopoly landline carriers are inappropriate. Each state could attempt variations of either or adopt innovative regulations, increasing the system's costs that would eventually be passed along to the consumer. The addition of multiple PCS licensees to the marketplace would increase the regulatory headaches when the raison d'etre of state regulation, intrastate monopoly power, would not exist.

One final, but complex, regulatory issue remains. If the Commission recognizes the broad marketplace of personal information systems to include cellular, PCS, SMR, and MSS, and if this new market is to become a competitive source of efficient service, the various service providers must be allowed to enter the market on a level regulatory playing field. It is inappropriate for one player to shoulder a disproportionate regulatory burden merely because its technology was the

first to arrive on the scene. Once PCS, MSS, and the rest enter the arena, the clock starts running anew with fresh teams all around. Principles of fairness require the Commission to examine the regulatory structure for cellular and other market pioneers and create rules that facilitate competition in the public interest.

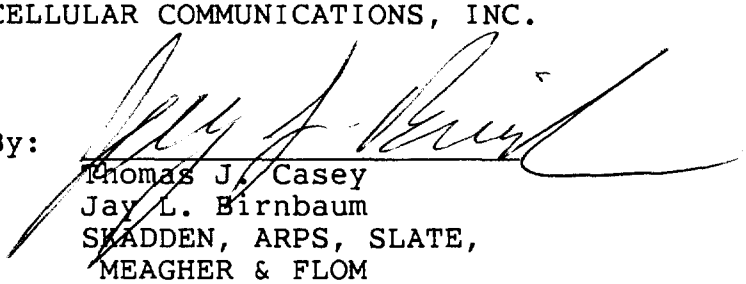
Conclusion

For all these reasons, CCI respectfully submits that the Commission can most effectively recognize its goals in creating a personal communications service by allowing entry to the maximum number of licensees per geographic area and by allowing potential providers with existing communications interests to obtain PCS licenses in the same markets. The Commission should reduce its administrative burden by choosing Rand McNally major trading areas as the PCS geographic service boundaries, but this would require allowing current service providers to compete. The Commission should award PCS licenses through public oral auctions to expedite the introduction of service and to maximize public benefits. PCS should be regulated as private radio and licensees should be treated as co-carriers with existing wireline services and provided with mandatory interconnection. CCI be-

lieves that these factors will lead to an effective and innovative communications system.

Respectfully submitted,

CELLULAR COMMUNICATIONS, INC.

By: 

Thomas J. Casey
Jay L. Birnbaum
SKADDEN, ARPS, SLATE,
MEAGHER & FLOM
1440 New York Avenue, N.W.
Washington, D.C. 20005
(202) 371-7000
Its Attorneys

Dated: November 9, 1992